

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claim 1 (Currently Amended): A toner for developing an electrostatic image, comprising:

a polyester resin containing nitrogen; and

a colorant,

wherein a concentration of nitrogen at a surface of the toner is more than a concentration of nitrogen in the entire toner, and the surface of the toner is harder than a center portion of the toner.

Claim 2 (Original): A toner for developing an electrostatic image according to Claim 1, a hardness of the polyester resin at the surface being higher than a hardness of the polyester resin at the center portion.

Claim 3 (Currently Amended): A toner for developing an electrostatic image, ~~comprising~~ according to Claim 1:

~~a polyester resin; and~~

~~a colorant,~~ wherein a the surface of the toner is higher in heat resistance than a the center portion of the toner.

Claim 4 (Original): A toner for developing an electrostatic image according to Claim 3, a heat resistance of the polyester resin at the surface being higher than a heat resistance of the polyester resin at the center.

Claim 5 (Currently Amended): A toner for developing an electrostatic image,
~~comprising according to claim 1:~~

~~a polyester resin; and~~

~~a colorant,~~ wherein a the surface of the toner is higher in cross-linking density than a
the center portion of the toner.

Claim 6 (Original): A toner for developing an electrostatic image according to Claim
5, a cross-linking density of the polyester resin at the surface being higher than a cross-
linking density of the polyester resin at the center.

Claims 7-8 (Canceled).

Claim 9 (Currently Amended): A toner for developing an electrostatic image
according to Claim ~~[[8]]~~ 1, a ratio (S/V) of the surface concentration of nitrogen S to the
overall concentration of nitrogen V being from 1.2 to 10.

Claim 10 (Currently Amended): A toner for developing an electrostatic image
according to Claim ~~[[7]]~~ 1, the nitrogen-containing polyester resin being a polyester resin
modified with urea bonds.

Claim 11 (Currently Amended): A toner for developing an electrostatic image
according to Claim 1, the toner comprising particles formed by ~~at least one of~~ elongation
~~[[and]]~~ and/or cross-linking~~[[,]]~~ of a toner composition, the toner composition including a
prepolymer being dissolved in oil droplets dispersed in an aqueous medium.

Claim 12 (Original): A toner for developing an electrostatic image according to Claim 11, the toner particles being substantially spherical and an average sphericity E of the toner particles being from 0.90 to 0.99.

Claim 13 (Original): A toner for developing an electrostatic image according to Claim 1, a sphericity SF-1 of the toner being from 100 to 140 and a sphericity SF-2 of the toner being from 100 to 130.

Claim 14 (Original): A toner for developing an electrostatic image according to Claim 1, a volume mean diameter D_v of the toner particles being from $2\mu\text{m}$ to $7\mu\text{m}$ and a ratio (D_v/D_n) of the volume mean diameter D_v to a number mean diameter D_n being 1.25 or less.

Claim 15 (Currently Amended): A two component developer comprising:
a toner; and
carrier particles containing magnetic particles, the toner comprising:
a polyester resin containing nitrogen; and
a colorant,
wherein a concentration of nitrogen at the surface is more than a concentration of nitrogen in the entire toner, and a portion at a surface of the toner ~~being~~ is harder than a center portion of the toner.

Claim 16 (Currently Amended): An image forming apparatus comprising:
an electrostatic image carrier which supports an electrostatic image;

an image-developer for developing the electrostatic latent image into a toner image,
which houses a developer therein; and

a transfer which transfers the toner image to a support material, [[:]] and

wherein the [[a]] developer ~~containing~~ contains:

a toner; and

carrier particles containing magnetic particles, the toner comprising:

a polyester resin containing nitrogen; and

a colorant,

wherein a concentration of nitrogen at the surface is more than a concentration of
nitrogen in the entire toner, and a portion at a surface of the toner ~~being~~ is harder than a
center portion of the toner.

Claim 17 (Currently Amended): A process for forming an image comprising:

developing an electrostatic image by a developer containing:

a toner; and

carrier particles containing magnetic particles, the toner comprising:

a polyester resin containing nitrogen; and

a colorant,

wherein a concentration of nitrogen at the surface is more than a concentration of
nitrogen in the entire toner, and a portion at a surface of the toner ~~being~~ is harder than a
center portion of the toner.

Claim 18 (Currently Amended): A toner container comprising:

a toner containing:

a polyester resin containing nitrogen; and

a colorant,

wherein a concentration of nitrogen at the surface is more than a concentration of nitrogen in the entire toner, and a portion at a surface of the toner being is harder than a center portion of the toner.

Claim 19 (Currently Amended): A process cartridge comprising:

an image-developer for developing the electrostatic latent image into a toner image, which houses a toner therein; and

an electrostatic image substrate,

wherein the toner containing contains:

a polyester resin containing nitrogen; and

a colorant, wherein a concentration of nitrogen at the surface is more than a concentration of nitrogen in the entire toner, and a portion at a surface of the toner being is harder than a center portion of the toner.

Claim 20 (New): A toner for developing an electrostatic image, comprising:

a polyester resin containing nitrogen; and

a colorant,

wherein a concentration of nitrogen at a surface of the toner is more than a concentration of nitrogen in the entire toner, and the surface of the toner is higher in heat resistance than a center portion of the toner.

Claim 21 (New): A toner for developing an electrostatic image, comprising:

a polyester resin containing nitrogen; and

a colorant,

wherein a concentration of nitrogen at a surface of the toner is more than a concentration of nitrogen in the entire toner, and the surface of the toner is higher in cross-linking density than a center portion of the toner.

Claim 22 (Currently Amended): A toner for developing an electrostatic image according to Claim 11, wherein said particles are obtained by reacting a dispersion of an organic solvent in which a prepolymer (A) having isocyanate groups is dissolved or dispersed with amines (B) in an aqueous phase, and allowing the reaction to mature after the reactants are mixed and the solvent is removed.

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Reply to the Office Action dated: October 14, 2004

AMENDMENT TO THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 6. This sheet, which includes Fig. 6, replaces the original sheet including Fig. 6.

Attachment: Replacement Sheet

BASIS FOR THE AMENDMENT

The specification has been amended to correct obvious typographical errors and to capitalize trademarks.

Claims 7 and 8 have been canceled.

Claim 1 has been amended to include the limitations of Claims 7 and 8.

Claim 11 has been amended as supported at page 48.

New Claims 20-22 have been added.

New Claim 20 is supported by Claims 1 and 3 as originally filed.

New Claim 21 is supported by Claims 1 and 5 as originally filed.

New Claim 22 is supported at page 42, last paragraph and at page 48, 2nd full paragraph..

Figure 6 has been amended to delete reference characters 65-69, 71-73, 75-80 and 170.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 1-6 and 9-22 will now be active in this application.

INTERVIEW SUMMARY

Applicants wish to thank Examiner Dote for the helpful and courteous discussion with Applicants' Representative on January 4, 2005. During this discussion it was noted in the definitions of SF-1 and SF-2 at page 22, lines 14 to page 23, line 4, "L²" and "P²" are the correct variables as shown in U.S. 5,797,070 and U.S. 5,753,399. Thus, the amendment of the definitions of SF-1 and SF-2 only corrects obvious typographical errors.

Further, proposed amended claims were discussed. Based on the Examiner's comment, Claims 16-19 have been amended to include the "polyester resin containing nitrogen" to overcome the objection to the disclosure as well as the prior art rejections involving Nakayama et al.

With regard to Example 14 of Sugiyama et al., it was noted that there is no maturing step after reacting and removing the solvent (see Sugiyama et al., [0171]). Sugiyama et al simply state about the reaction and solvent removal step that the resulting dispersion was placed in a flask equipped with a stirrer and a thermometer and heated to 98°C to remove the solvent while reacting prepolymer (2) with ketimine (1).